

## ABSTRACT OF THE DISCLOSURE

Signal processing is set at step S51. Image information concerning an alignment mark is acquired and calculated from an alignment detecting optical system at step S53. The amount of positional deviation is calculated at step S54 by the signal processing, which was set at step S51, from the alignment-mark image information acquired at step S53. A combination of a shot (position information) and signal processing for which a residual error  $R_i$  will be minimized is obtained at step S57, a wafer is positioned in a projection optical system at step S58 by a wafer stage based upon AGA parameters calculated in accordance with the conditions of this minimizing combination, and the pattern on a reticle is transferred to the wafer by exposure at step S59.